

Amendment to Abstract:

Please amend the abstract on page 20 to read as follows:

Integrated sensors are described using lasers on substrates. [[A]] In one embodiment, a first sensor forms a laser beam and uses a [[quart]] quartz substrate to sense particle motion by interference of the particles with a [[defraction]] diffraction beam caused by a laser beam. A second sensor uses gradings to produce an interference. In another embodiment, an integrated sensor includes a laser element, producing a diverging beam, and a single substrate which includes a first diffractive optical element placed to receive the diverging beam and produce a fringe based thereon, a scattering element which scatters said fringe beam based on particles being detected, and a second diffractive element receiving scattered light.